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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

GREENE, DANIEL LAWSON

ART UNIT	PAPER NUMBER
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3663

DATE MAILED: 08/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/065,772	Applicant(s) CHOE ET AL.	
	Examiner Daniel L. Greene Jr.	Art Unit 3663	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 June 2005.
 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) ☐ Claim(s) _____ is/are allowed.
 6) ☒ Claim(s) 1-22 is/are rejected.
 7) ☐ Claim(s) _____ is/are objected to.
 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
 10) ☒ The drawing(s) filed on 11/18/02 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input checked="" type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>11/18/02</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Species C in the reply filed on 3 June 2005 is acknowledged. The traversal is on the ground that the examination of that there would not be a serious burden in examining other groups and species. This is not found persuasive because the applicant has not submitted evidence or identified such evidence now of record showing that the species to be obvious variants or clearly admitted on the record that this is the case, however it appears applicant is admitting that species may be obvious variants, as shown by, for example, the first sentence of the second paragraph of the response received 3 June 2005 "The requirement for election is traversed because Species A, B, and C are clearly related." If applicant would clearly admit on the record that the species are obvious variants of one another, the election of species requirement in that regard would be withdrawn (note section 4 of said 5/3/2005 Office action)

The various species set forth by the examiner in the 5/3/2005 Office action, are mutually exclusive on their face. It is not possible to correctly and properly argue the contrary.

The searches for each of the species are not coextensive. The search and examination of all species would present an undue burden on the examiner.

The requirement is still deemed proper and is therefore made FINAL.

Drawings

2. New corrected drawings in compliance with 37 CFR 1.121(d) are required in this application for the reasons listed on the attached PTO-948. Applicant is advised to employ the services of a competent patent draftsman outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. **Claims 1 to 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Patterson (U.S. 3,892,625) in view of JP 06-289178 (Yasuyaki) for the reasons set forth in section 3 of the previous office action dated 10/15/2004.**

Applicant's arguments Applicant's arguments filed 2/15/2005 have been fully considered but they are not persuasive.

Applicant's arguments are unpersuasive as applicant has not pointed to any specific structure recited in the claims, which is not found in the reference.

Page 8, last paragraph submits that the specific passage referenced does not disclose that each main coolant flow channel further includes a means of controlling a flow of coolant through the main coolant flow channel so that the

flow of coolant through the main coolant flow channel of the fuel assemblies located in a particular region are substantially the same" (underlining added to show this limitation is a statement of intended or desired use of the "means of controlling a flow of coolant"). It must be noted that the examiner has cited particular columns and lines of the reference for the convenience of the applicant, however these particular citations are not to be read and deciphered in a vacuum. The applicant must consider what the reference teaches as a whole. For example, Patterson clearly teaches "...the cooling requirements are different depending on the location of particular assemblies..." (Col 3, ll 40-41) "Thus the coolant 38 will be matched with the respective cooling requirements of these identical, shuffleable radial blanket fuel assemblies...Moreover, these selectively insertable restraint assemblies 18 provide inlet means for matching the flow and position of the coolant with the radial blanket fuel assemblies..." (Col. 4, ll. 52-58, Underlining added) and "It is a principal object of this invention, therefore, selectively, periodically to provide an improved distribution of the coolant through specific zones..." (Underlining added, Col. 2, ll 47-50). Patterson goes on to teach in, for example, Figure 2 and column 6, lines 24-48, that each fuel assembly also has a means of controlling flow there through, "This allows for significant variation in the coolant flow depending on the radial location" (underlining added). Therefore it is considered that Patterson not only teaches that it is old and well known to vary the flow of coolant through specific "radial zones" with the use of individual fuel element orifices, but also with orifices that

control the flow of coolant to entire zones as well. Clearly for matching the flow and position of the coolant with the radial blanket fuel assemblies implies that the flow through this specific zone is "matched" or substantially the same.

With regard to applicant's argument on the first paragraph of page 9, that orifice plates 31 do not control a flow of coolant through the main coolant flow channels, the applicant is directed to Figure 2, wherein it is clearly shown that the main coolant flow 62' (which is a direct result of coolant flow through orifice 31), that feeds radial blanket fuel assemblies 63 does indeed control not only "a" flow of coolant through the main coolant flow channels, it controls "the" flow of coolant.

Applicant's arguments beginning on the second paragraph of page 9, are unpersuasive as applicant has not shown that the references do not teach what the examiner has stated they teach, nor has applicant shown that the examiner's reasoning for and manner of combining the teachings of the references is improper or invalid. Yasuyuki was cited as teaching it is well known in the nuclear reactor art to arrange nuclear cores with tripartite flow rate regions and as clearly stated in the abstract "each flow rate in the regions 2-4 is adjusted to an optimum state", NOT each flow rate in each fuel assembly in each region is adjusted to an optimum state. Review of Figure 3 does indeed show that, if the numbers represent flow rates, the flow rates are substantially the same. Without specific limits on the limitation "substantially" it is apparent that the numbers in region 4 are indeed "substantially" the same, since the numbers in said region 4

range between 1.12 and 1.6, the numbers in region 3 range between 0.89 and 0.93 and the numbers in region 2 range between 0.95 and 1.19. Clearly the numbers are "substantially" the same within the respective region, especially when compared with the numbers in the other regions. Therefore, for at least the reasons set forth above, Yasuyuki does indeed teach that it is known in the art to vary the flow of various regions within a nuclear reactor core such that the flow within each of said regions is "substantially" the same. One cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Applicant's arguments, beginning on page 10 regarding claim 13, have been considered but are unpersuasive. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., coolant orifices located in THE inlet of THE MAIN COOLANT FLOW CHANNEL OF THE FUEL ASSEMBLIES) (underlining added) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Nonetheless, Patterson clearly discloses a plurality of coolant orifices (see, for example Figure 2 items 104 and 52) located in the inlet of the main coolant flow channel of each respective fuel assembly as well as those

orifices 31 as explained in section 3 of said previous office action dated 10/15/2004 and there is no novelty in rearranging parts.

Note that MPEP 2144 states that making separable, rearrangement of parts, duplication of parts and/or changing the shape does not make an invention patentably distinct. See *In re Dulberg*, 289 F.2d 522, 523, 129 USPQ 348, 349 (CCPA 1961), *In re Japikse*, 181 F.2d 1019 86 USPQ 70 (CCPA 1950) and *In re Kuhle*, 526 F.2d 553, 188 USPQ 7 (CCPA 1975), *In re Harza*, 274 F.2d 669, 124 USPQ 378 (CCPA 1960), *In re Dailey*, 357 F.2d 669, 149 USPQ 47 (CCPA 1966)

Figure 2 clearly shows different diameter orifices (52) for different regions and each diameter is different. Please note that Figure 2 is a partial cross section of Figure 1, therefore each fuel assembly 63 can be considered a region that continues around the reactor in a circular form. Clearly each "region" has the same diameter coolant orifice (52) and therefore inherently must have substantially the same coolant flow.

As to limitations which are considered to be inherent in a reference, note the case law *In re Ludtke*, 169 USPQ 563, *In re Swinehart*, 169 USPQ 226, *In re Fitzgerald*, 205 USPQ 594, *In re Best et al*, 195 USPQ 430, and *In re Brown*, 173 USPQ 685,688.

Applicant's arguments, beginning on page 12 regarding claim 18, have been considered but are unpersuasive. Patterson Figure 2 clearly teaches that the flow restriction devices located in a particular region are sized so that a number of flow openings (104) are the same (reads on the middle 3 fuel

assemblies that have orifices (104)) and said number of flow openings of said flow restriction devices of each said region is different from said number of flow openings of said flow restriction devices of each other region, see for example, the flow openings in fuel assembly (19), which is in a different region. Again, it is noted that applicant is attempting to rearrange the parts of Patterson by simply moving the orifices and flow openings from one place to another, i.e. from the divider plate to the fuel elements, or vice versa. As previously stated, rearranging the parts does not make an invention patentably distinct. Additionally it must be noted that according to the laws of thermodynamics and fluid flow for a given orifice geometry at a given differential pressure, the flow rate there through remains constant. There is no inventive concept in varying the number of flow holes and/or size in order to maintain the same flow, for example decreasing the number of holes but increasing their size. This is simply considered a rearrangement of parts, i.e. rearranging the size or number of orifices and/or flow holes, however the end result is still the same, i.e. the flow remains the same. This is well within the knowledge of one of ordinary skill in the art.

- 4. Claims 1, 2, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baxi (U.S. 4,303,474) in view of JP 06-289178 (Yasuyaki) for the reasons set forth in section 4 of the previous office action dated 10/15/2004.**

Applicant's arguments Applicant's arguments filed 2/15/2005 have been fully considered but they are not persuasive.

Applicant's arguments are unpersuasive as applicant has not pointed to any specific structure recited in the claims, which is not found in the reference.

Applicant's arguments, spanning pages 14-20, have been considered but are unpersuasive. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., coolant orifices located in THE inlet of THE MAIN COOLANT FLOW CHANNEL OF THE FUEL ASSEMBLIES) (underlining added) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Claim 1 recites "a means of controlling a flow of coolant through said main coolant flow channel", said main coolant channel referring back to "each fuel assembly comprising...a main coolant flow channel" (underlining added). Clearly "a flow of coolant" and "a main coolant flow" can be interpreted broadly to read on the reference, since some portion of coolant must flow through the Baxi reference and some portion of this coolant must be main coolant flow.

Regardless, as explained in Section 4 of the previous office action dated 10/15/2004, Baxi clearly discloses a means of controlling the flow through the fuel elements in, for example, Figures 2 and 4, item 15 and column 1, lines 27-30 wherein it is disclosed and understood that blanket elements are not only fuel

elements, they are fuel elements located near the external radial boundary/region of the reactor core.

Applicant's arguments regarding Yasuyuki have already been explained in detail in section 3 above.

Applicant's arguments on page 17, last paragraph, regarding claim 13 have been considered but are not persuasive. Baxi clearly discloses a nuclear reactor core comprising a plurality of coolant orifices (29), each said coolant orifice comprising a diameter and located in an inlet of a cooling flow channel (29), wherein it is understood that each fuel element (11) has an inlet orifice, which reads on "a plurality of coolant orifices", and each inlet orifice inherently has a diameter. The inventive concept of Baxi is to adjust the flow through certain fuel assemblies (in this case blanket assemblies) by limiting the effective diameter of either the inlet or outlet orifices. Obviously by placing flow restrictor (item 15) in the inlet orifice, the effective diameter of the orifice is diminished because the obstruction by said restrictor inherently changes the geometric configuration of the inlet, thereby reducing the overall effective diameter of said orifice. Since all of the blanket assemblies receive this flow restrictor, obviously a "region" is established with an effective diameter (size) different from the diameter of the coolant orifices in the other region. Again, although Baxi discloses the flow restrictors are in the blanket elements, as explained above, blanket elements are fuel elements. Further, it is also clearly stated that "the significant structural aspects of the fuel elements are generally the same as

those of the blanket elements..." see, for example, column 3 lines 25-26. As previously explained, Yasuyuki teaches it is prima facie obvious to set up regions with substantially similar flow and Baxi teaches this is done with the use of flow restrictor, therefore it is obvious on its face to use said flow restriction devices in any or all of the fuel elements of a nuclear reactor in order to set up regions with substantially similar flow. As explained above, the effective diameter of the coolant orifices located in a particular region (the blanket region) are substantially the same, so inherently, the flow of coolant through the main coolant flow channels of the fuel assemblies located in the particular region must be substantially the same, and the effective diameter of the coolant orifices located in the fuel assemblies in the non blanket region, which do not have flow restrictors, is inherently different (larger) from the effective diameter in the fuel assemblies in the blanket region.

The restrictor assembly does not need to have an orifice as it is altering the effective diameter of the orifice of the fuel cell and the language of claim 13 does not positively recite the limitation as the claim currently only requires that a main coolant flow channel comprises only one (each) coolant orifice be located in an inlet of a cooling flow channel not a main coolant flow channel.

Applicant's arguments, see page 19, second full paragraph, filed 2/15/05, with respect to claim 18 have been fully considered and are persuasive. The rejection of ONLY claim 18 contained in section 4 of the previous office action dated 10/15/2004 has been withdrawn.

5. Claims 1, 2, 13 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johansson et al (DE 3150477A1) in view of Nakamura et al (U.S. 5,1096,575) for the reasons set forth in section 5 of the previous office action dated 10/15/2004.

Applicant's arguments Applicant's arguments filed 2/15/2005 have been fully considered but they are not persuasive.

Applicant's arguments are unpersuasive, as applicant has not pointed to any specific structure recited in the claims, which is not found in the reference.

Applicant's arguments are unpersuasive as applicant has not shown that the references do not teach what the examiner has stated they teach, nor has applicant shown that the examiner's reasoning for and manner of combining the teachings of the references is improper or invalid.

Attention is directed to claim 1 and the last paragraph of page 2, wherein it is clearly stated "...the lower lattice array and the fuel channel device are supported by the transition piece..." "...the transition piece is provided with an exchangeable throttling element (7, 7', 14, 22, 28, 40) fixed to the transition piece for throttling a reactor coolant flow through the inlet part" and "The inlet part on the lower end of the fuel bundle is used for arrangement purposes in an associated opening in a tie plate, which carries several fuel bundles. The openings in the tie plate and thus the fuel bundles are each connected hydraulically to a water passage for the supply of cooling water to the fuel

Art Unit: 3663

bundles. It is known to provide each of these water passages with a throttling element in order to be able optimally to set, among other things, the water distribution in the reactor core by distributing the amount of water flowing through a fuel bundle to the various individual groups of fuel bundles." (Underlining added)

Clearly, "an exchangeable throttling element", "fixed to the transition piece for throttling a reactor coolant flow", "to optimally set, among other things, the water distribution in the reactor core...to the various...groups of fuel bundles" discloses a means for controlling (throttling) a flow of coolant through said main coolant flow channel, and that these flows are optimally set for various groups of fuel bundles.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., the main coolant conduit of the fuel elements include a means for controlling a flow...") (underlining added) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). In this regard, it is noted that Nakamura et al. was not cited for teaching "the main coolant conduit of the fuel elements include a means for controlling a flow of coolant through said main coolant flow channel..." Again, applicant's arguments are unpersuasive as applicant has not shown that the references do not teach what the examiner has

stated they teach, nor has applicant shown that the examiner's reasoning for and manner of combining the teachings of the references is improper or invalid.

Page 23, third full paragraph, regarding claim 13, applicant argues Johansson does not suggest or teach that the diameter of coolant orifices located in a particular region are substantially the same and the diameter of the coolant orifices in each region is different from the diameter of the coolant orifices in other regions. This is not persuasive because Johansson clearly teaches on page 3, third paragraph "The adjustability obtained through the invention is of great significance when several fuel bundles, which exhibit different hydraulic total resistance values relative to each other in the unadjusted state, are to be used in the same reactor core. This is the case, e.g., when a fourth of the total number of fuel bundles in the core are to be exchanged for fuel bundles with a lower hydraulic resistance. Then, when the new fuel bundles are inserted, a throttling element can be set for each fuel bundle so that there is an optimal or nearly optimal distribution of the total reactor cooling water flow to the individual fuel bundles, without requiring intervention in the reactor parts located underneath the fuel bundle." (Underlining added) Clearly this teaches that when several fuel bundles exhibit the same hydraulic total resistance values in the unadjusted state and they are to be used in the same reactor, then one of ordinary skill in the art would obviously set the same throttling element for each of the fuel elements exhibiting the same hydraulic total resistance, therefore the diameter of the coolant orifices would be substantially the same.

Regarding applicant's argument, see page 23, last few sentences, that the throttling disc 40 is said to have a larger hole 42, four smaller holes and a slot for passage of reactor coolant, it is not seen where these limitations do not still read on applicants claim language, because applicants claim language does not require that ALL coolant orifices have the same diameter, only that each coolant orifice comprises a diameter and that said diameter of said coolant orifices located in a particular region are substantially the same, which reads on the fact that when, for example, throttle disc 40 (with its orifices located in particular regions, i.e. the inner/center/middle region of the disc or the outer radial region of the disc) is set in multiple fuel assemblies, then each fuel assembly will indeed comprise diameters of orifices that are substantially the same in particular regions, i.e. the inner/center/middle region and the outer radial region and further that the diameter of the coolant orifices in the inner/center/middle region is different from the diameter of the outer radial region.

It is again noted that the limitations "so that a flow of coolant through the main coolant flow channels of the fuel assemblies located in the particular region are substantially the same" and "so that the flow of coolant through the fuel assemblies in each region is different from the flow of coolant through the fuel assemblies in each other region" are statements of desired or intended use.

However, there is well settled case laws that such statements (so that the flow of coolant...) as to possible future acts or to what may happen in a method or operation, are essentially method limitations or statements of intended or desired

use and do not serve to patentably distinguish the claimed structure over that of the references. See *In Re Pearson*, 181 USPQ 641; *In re Yanush*, 177 USPQ 705; *In re Finsterwalder*, 168 USPQ 530; *In re Casey*, 152 USPQ 235; *In re Otto*, 136 USPQ 458; *Ex parte Masham*, 2 USPQ 2nd 1647.

See MPEP 2114, which states:

A claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus teaches all the structural limitations of the claim. *Ex parte Masham*, 2 USPQ 2nd 1647.

Claims directed to apparatus must be distinguished from the prior art in terms of structure rather than functions. *In re Danly*, 120 USPQ 528, 531.

Apparatus claims cover what a device is, not what a device does. *Hewlett-Packard Co. v. Bausch & Lomb Inc.*, 15 USPQ 2nd 1525, 1528

As set forth in MPEP 2115, a recitation in a claim to the material or article worked upon, does not serve to limit an apparatus claim.

Regarding applicant's argument's spanning pages 24 and 25, it is again noted that applicant is attempting to argue "intended use" statements, i.e. "are sized so that a number of flow openings are the same, and the number of flow openings restriction devices located in a particular region are sized so that a number of flow openings are the same, and the number of flow openings of the flow restriction devices of each region is different from the number of flow openings of the flow restriction devices of each other region." However as explained above, Johansson clearly discloses the number of flow openings in the

inner/center/middle region (one) is different from the number of flow openings in the outer radial region (four) and therefore reads on the claim language.

Conclusion

6. Examiner's Note: Examiner has cited particular columns and line numbers in the references as applied to the claims for the convenience of the applicant. Although the specified citations are representative of the teachings in the art and are applied to the specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant, in preparing the responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the examiner.

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Art Unit: 3663

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel L. Greene Jr. whose telephone number is (571) 272-6876. The examiner can normally be reached on Mon-Fri 8:30am - 5pm.

9. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Keith can normally be reached, Mon-Fri 6:30am -4:00pm, at telephone number (571) 272-6878. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

10. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DIG

8/24/2005


JACK KEITH
PRIMARY EXAMINER

SP- 7463